What is claimed is:

1. A texture description method using a Gabor filter in a frequency domain for describing texture information of an image, comprising:

a first step of converting an image, in which an image of a time domain is transformed into an image of a frequency domain;

a second step of filtering the transformed image of the frequency domain using a Gabor filter having N×M filtering regions, where N and M are predetermined positive integers;

a third step of extracting feature values of the Gabor-filter image in respective channels of a frequency domain division layout corresponding to the N×M filter regions of the Gabor filter; and

a fourth step of describing the image texture descriptor using the texture feature values of the image.

2. The method of claim 1, wherein, in the first step, the image of the time domain is two-dimensional Fourier-transformed to be an image of an orthogonal coordinate system frequency domain.

3. The method of claim 1, wherein, in the first step, the image of the time domain is Radon-transformed, and one-dimensional Fourier-transformed into an image of a polar coordinate system frequency domain.

4. The method of claims 1 through 3, wherein, the frequency domain division layout of the third step is made on the basis of a human visual system (HVS).

5. The method of claim 4, wherein the frequency domain division frequency layout is made by dividing the frequency domain by an octave interval in the radial direction away from the origin, and dividing the frequency domain by a '180/division resolving power' interval in the angular direction.

6. The method of claim 4, wherein an importance or order of priority is granted to the respective channels of the frequency domain division layout.

7. The method of claim 4, wherein, in the third step, one of the energy mean value and energy variance value of the Gabor-filtered image in the respective channels of the frequency domain division layout is extracted as a feature value.

8. The method of claim 7, wherein the texture descriptor includes energy of a DC channel, the variance of all of the pixel values of an image, the energy mean values obtained from the respective channels and/or the energy variance values obtained from the respective channels.

9. Recording media which can be read by a computer, in which a program is recorded for executing the following steps:

a first step of transforming an image, in which an image of a time domain is transformed into an image of a frequency domain;

a second step of filtering the frequency domain using a Gabor-filter having N×M filter regions, where N and M are respective predetermined positive integers;

a third step of extracting texture feature values of the image Gabor-filtered in respective channels of a frequency domain division layout corresponding to the N×M filter regions of the Gabor filter; and

a fourth step of describing a texture descriptor of the image using the texture feature values of the image.

10. A texture-based image retrieval method using a Gabor filter in a frequency domain for texture-based retrieving a data image similar to a query image, comprising:

a first step of extracting a data texture descriptor by filtering data images using a Gabor filter and storing the extracted data texture descriptor in the database;

a second step of extracting a query texture descriptor of a query image using a Gabor filter when a query image is input and storing the extracted query texture descriptor;

a third step of matching the data texture descriptor and the query texture descriptor and measuring the distance between two texture descriptors; and

a fourth step of determining a similarity between two images according to the distance between two texture descriptors.

11. The method of claim 10, wherein, in the first and second steps, the step of extracting the data texture descriptor and the query texture descriptor comprises:

a first sub-step of transforming an image of a time domain into an image of a frequency domain;

a second sub-step of filtering the image of the frequency domain using a Gabor filter having N×M filter regions, where N and M are respective predetermined positive integers;

a third sub-step of extracting texture feature values of the image Gabor-filtered in respective channels of a frequency domain division layout corresponding to the N×M filter regions of the Gabor filter; and

a fourth sub-step of describing the texture descriptor of the image using the texture feature values of the image.

12. The method of claim 11, wherein, in the first sub-step, the image of the time domain is two-dimensional Fourier-transformed into an image of an orthogonal coordinate system frequency domain.

13. The method of claim 11, wherein, in the first sub-step, the image of the time domain is Radon-transformed, and then one-dimensional Fourier-transformed into an image of a polar coordinate system frequency domain.

14. The method of claims 11 through 13, wherein the frequency domain

division layout of the third sub-step is made on the basis of a human visual system (HVS).

15. The method of claim 14, wherein the frequency domain division frequency layout is made by dividing the frequency domain by an octave interval in the radial direction away from the origin, and by a '180/division resolving power' interval in the angular direction.

16. The method of claim 14, wherein the importance or the order of priority is granted to respective channels of the frequency domain division layout.

17. The method of claim 14, wherein, in the third sub-step, at least one value of the energy mean value and energy variance value of the image Gabor-filtered in the respective channels of the frequency domain division layout is extracted as the feature value.

18. The method of claim 17, wherein the texture descriptor includes energy of a DC channel, the variance of all of the pixel values of an image, the energy mean values obtained by the respective channels and/or the energy variance values obtained by the respective channels.

19. The method of claim 17, wherein, in the third sub-step, the distance between two texture descriptors is measured by respectively comparing the feature values extracted from the respective channels.

20. The method of claim 19, wherein the distance between the query image and the data image is measured by rotating the query image in a predetermined degree in the frequency domain, and the minimum distance is determined as the distance between two images.

21. The method of claim 19, wherein the distance between the query

image and the data image is measured by size-transforming the query image in the frequency domain, and the minimum distance is determined as the distance between two images.

22. Recording media which can be read by a computer, in which a program is recorded for executing the following steps:

a first step of extracting data texture descriptors by filtering data images using a Gabor filter, and storing the extracted data texture descriptor in the database;

a second step of extracting feature values by transforming a query image into an image of a frequency domain when a query image is input, and Gabor-filtering the transformed image, and then deciding the extracted feature values as query texture descriptors;

a third step of matching the data texture descriptors and the query texture descriptors, and measuring the distance between two texture descriptors; and

a fourth step of determining a similarity between two images according to the distance between two texture descriptors.